TECHNISCHER KUNDENDIENST

Service-Information



video-camera C 330 983.351 H

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NORDMENDE

Diese Angaben und Hinweise sind ausschließlich für den Service des Fachhändlers bestimmt · Änderungen vorbehalten

These instructions are for service dealers only · Subject to modification

Mit dieser Service-Information geben wir Ihnen Hinweise zur Durchführung normaler Service-Arbeiten. Sollten darüberhinaus Reparaturen erforderlich werden, dann wenden Sie sich bitte an Ihre nächste Niederlassung.

Wichtige Hinweise:

Die Sicherheit des Gerätes muß nach einer Reparatur oder Überprüfung erhalten bleiben. Es dürfen deshalb keine konstruktiven Merkmale des Gerätes sicherheitsmindernd verändert werden (z. B. müssen Abdeckungen ordnungsgemäß angebracht sein). Ersatzteile müssen hinsichtlich ihrer Daten und ihrer Merkmale dem getauschten Teil entsprechen, damit die Sicherheit des Gerätes nicht vermindert wird. Verwenden Sie deshalb nur Original-Ersatzteile.

Reinigung des Objektives

Das Objektiv ist oberflächenvergütet. Verwenden Sie zur Reinigung einen weichen Pinsel oder ein weiches, fusselfreies Tuch, evtl. mit klarem Wasser angefeuchtet. Fingerabdrücke können die Oberflächenbeschichtung angreifen. Empfehlenswert ist die Verwendung von Optikreiniger und Optikpapier. Keine chemisch behandelten Brillentücher verwenden!

Reinigung des Gehäuses

Verwenden Sie keinesfalls Lösungsmittel! Zur Reinigung verwenden Sie ein angefeuchtetes weiches Tuch. Bei starker Verschmutzung kann es in einer milden Seifen- oder Spülmittellösung getränkt werden.

Monitor einstellen

Grautreppen-Testbild aufnehmen

1. Helligkeit
   so dunkel einstellen, daß sich die letzten beiden Balken der Grautreppe (schwarz und dunkelgrau) noch gut voneinander abheben.
2. Kontrast
   Hinweis: ein zu starker, ein zu kräftig eingestellter Kontrast ist für das Auge anstrengend und verkürzt die Lebensdauer der Bildröhre.

Diese Einstellungen beeinflussen nur das Monitorbild, nicht die Aufnahme.

This Service Instruction is intended to enable normal repair work. If further repairs are required, please see our nearest agency.

Important notes:

The original standard of safety of this equipment must not be impaired by any repair work. Constructive features with regard to safety must not be altered. In particular all covers and shieldings must be correctly located after any repair or maintenance work. Components must not be exchanged by other than identical components as originally used in manufacture.

Cleaning the lens

The lens is treated with a surface finishing. To clean use a soft lens brush or a damp lint-free cloth. Fingerprints may negatively effect the lens finishing. The lens is best cleaned with a suitable lens cleaning fluid or paper. Do NOT use chemically treated spectacle cloths.

Cabinet care

Use only a soft damp cloth for cleaning. In special instances of extreme fouling, the cloth may be soaked in mild soapy water. Do NOT use solvents or cleaning agents.

Monitor adjustment

Record a grey scale test picture.

1. Brightness:
   Adjust the brightness to where the last two bars (black and dark grey) can still be clearly distinguished.
2. Contrast:
   Note: Too high a contrast setting tires the eye and shortens the life of the picture tube.

These adjustments effect the monitor picture only and have no influence on the recording.

Technische Daten

Norm CCIR-PAL, 625 Zeilen

Bildaufnahmeröhre 2/3" Newvicon mit Streifenfilter

Video-Signal 1 V_{ss} an 75 Ohm

Signal-Rausch-Abstand > 45 dB

Bildauflösung
horizontal: > 280 Zeilen
vertikal: > 300 Zeilen

Empfindlichkeit 10 Lux

Zoom
6fach (11,5 ... 70 mm) manuell und motorisch, 2 Geschwindigkeiten

Blendenzahl 1 :1,3

Blende automatische und manuelle Blendeneinstellung

Filterdurchmesser 52 mm

Audio-Ausgang — 20 dB (77,5 mV)

Mikrofon Kondensator-Mikrofon, Kugelcharakteristik

Anschlußbuchse für
externes Monomikrofon, externes Stereomikrofon,
— 66 dB (0,4 mV) 3,5 mm Klinkenbuchse, hochohmig

Stromversorgung 12 V / max. 5,8 W

Gewicht 1,46 kg

Maße 33,6 x 23,8 x 8,5 cm (B x H x T)

Technical data

Standard CCIR-PAL, 625 lines

Pickup tube 2/3" Newvicon with stripe filter

Video signal 1 V_{pp} at 75 Ohms

Signal to noise ratio > 45 dB

Resolution
horizontal 280 lines
vertical 300 lines

Minimum brightness 10 luxes

Zoom 6-fold (11,5–70 mm) manual and by motor

Light intensity 1 :1,3

Aperture automatic and manual exposure

Filter diameter 52 mm

Audio output — 20 dB (77,5 mV)

Microphone Capacitor microphone, omnidirectional characteristic

Connecting jack for
external mono microfone
external stereo microfone
— 66 dB (0,4 mV), mini jack 3,5 mm, high impedance

Power supply 12 V / 5,8 W max.

Weight 1,46 kg

Dimensions 33,6 X 23,8 x 8,5 cm (L x H x W)

Schaltbildhinweise / *Circuit diagram notes*

Angegebene Gleichspannungen mit Digital-Voltmeter gemessen.
Die Buchstaben- und Zahlenkombinationen unter den Bauteilbezeichnungen geben das Planquadrat auf der Leiterplatte an.

Widerstände

Alle Widerstandswerte sind in Ω; 1/4 W falls nicht anders angegeben.

k = 1 000 M = 1 000 000

CR	= Kohlewiderstand
Comp. R	= Aufbauwiderstand
OM R	= Oxidmetallfilm-Widerstand
VR	= Regelwiderstand
MF R	= Metallfilmwiderstand
CMF R	= Metallfilmbeschichteter Widerstand
UNF R	= Nicht entzündbarer Widerstand
F R	= Sicherungswiderstand

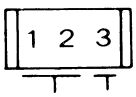
Kondensatoren

Kapazitätswerte sind in pF oder in µF

C CAP	= Keramikkondensator
M Cap	= Mylarkondensator
E Cap	= Elektrolytkondensator
BP E Cap	= Bipolarer Elektrolytkondensator
MM Cap	= Metallisierter Mylarkondensator
PP Cap	= Polypropylenkondensator
MPP Cap	= Metallisierter Polypropylenkondensator
PS Cap	= Polystyrolkondensator
T. Cap.	= Tantalkondensator

Chip-Bauteile sind folgendermaßen gekennzeichnet:
Chip Values are calculated as follows:

Chip-Widerstände Chip Resistor



12 x 10^3 ohm = 12 kohm

Farbkennzeichnung

GRY	Grau
ORG	Orange
YEL	Yellow
BLK	Schwarz
BRN	Braun
BLU	Blau
RED	Rot
GRN	Grün
WHT	Weiß

DC voltages given were measured with a digital voltmeter.
The letter and number combinations under the component designation give the square position on the p.c.b.

Resistors

All resistors values are in Ω, 1/4 W unless otherwise specified.

k = 1 000 M = 1 000 000

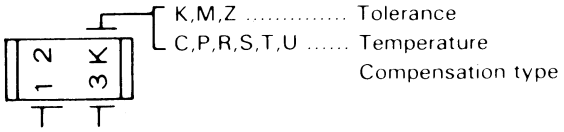
CR	= Carbon resistor
Comp. R	= Chip resistor
OM R	= Metal oxide film resistor
VR	= Potentiometer
MF R	= Metal film resistor
CMF R	= Metal film coated resistor
UNF R	= Non inflammable resistor
FR	= Fuse resistor

Capacitors

Capacitor values are in pF or µF

C Cap	= Ceramic capacitor
M Cap	= Mylar capacitor
E Cap	= Electrolytic capacitor
BP E Cap	= Bipolar electrolytic capacitor
MM Cap	= Metalized mylar capacitor
PP Cap	= Polypropylen capacitor
MPP Cap	= Metalized polypropylen capacitor
PS Cap	= Polyester capacitor
T. Cap.	= Tantalium capacitor

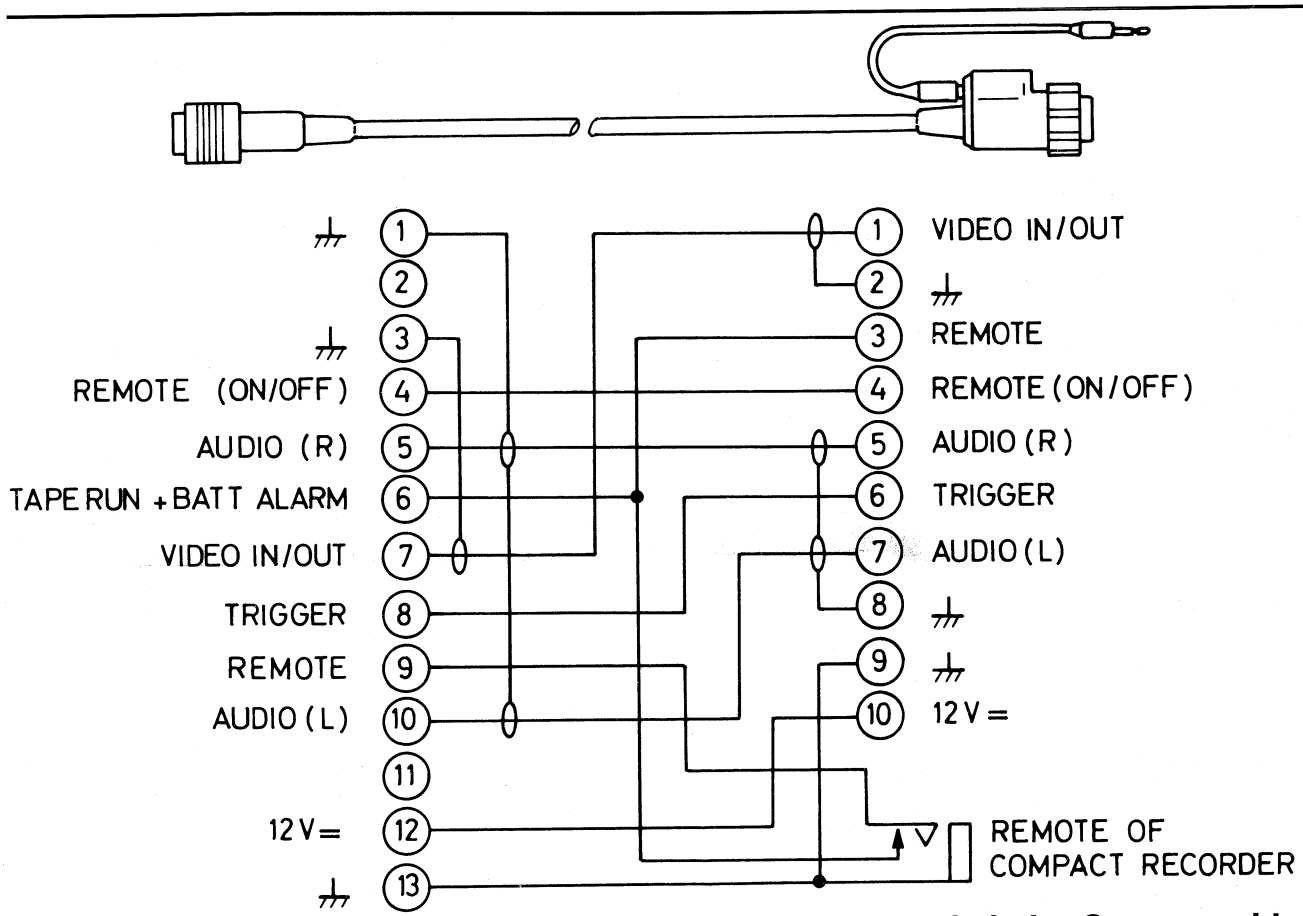
Chip-Kondensatoren Chip Capacitor



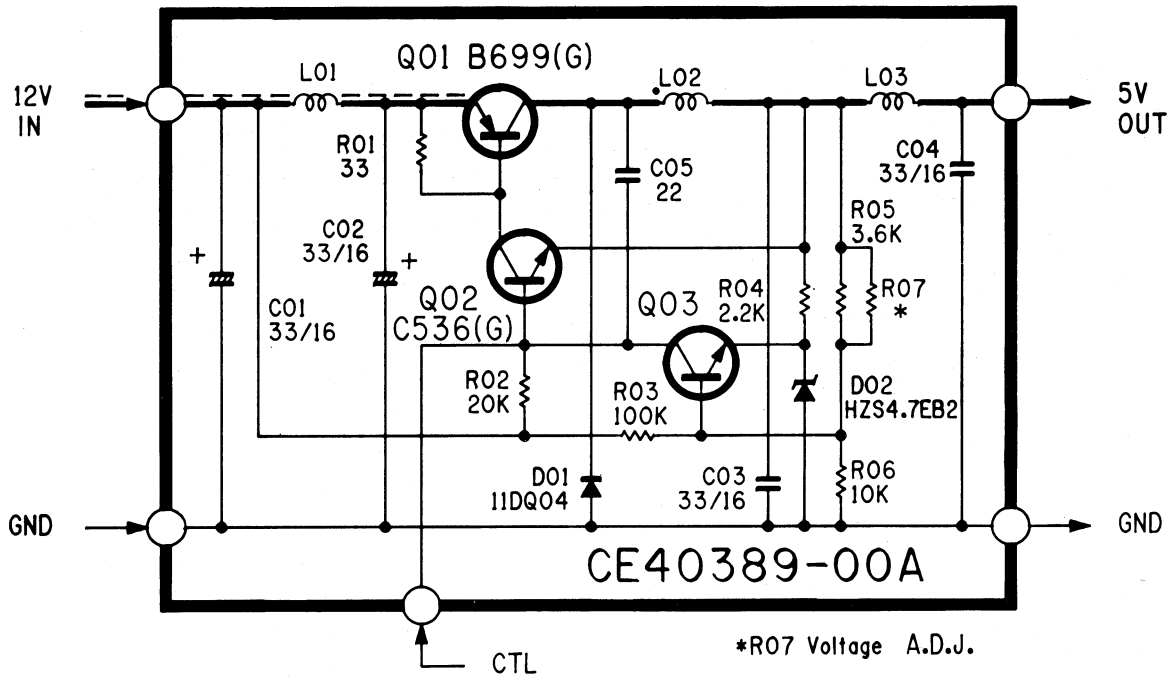
12 x 10^3 PF = 12 x 10^3 µF = 0,012 µF

Colour coding

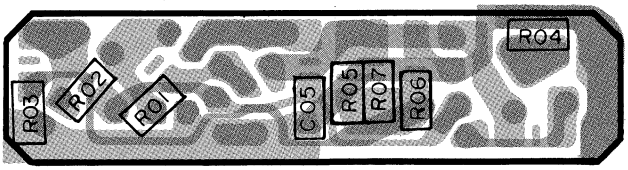
GRY	Grey
ORG	Orange
YEL	Yellow
BLK	Black
BRN	Brown
BLU	Blue
RED	Red
GRN	Green
WHT	White

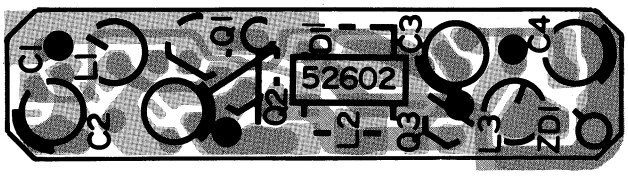


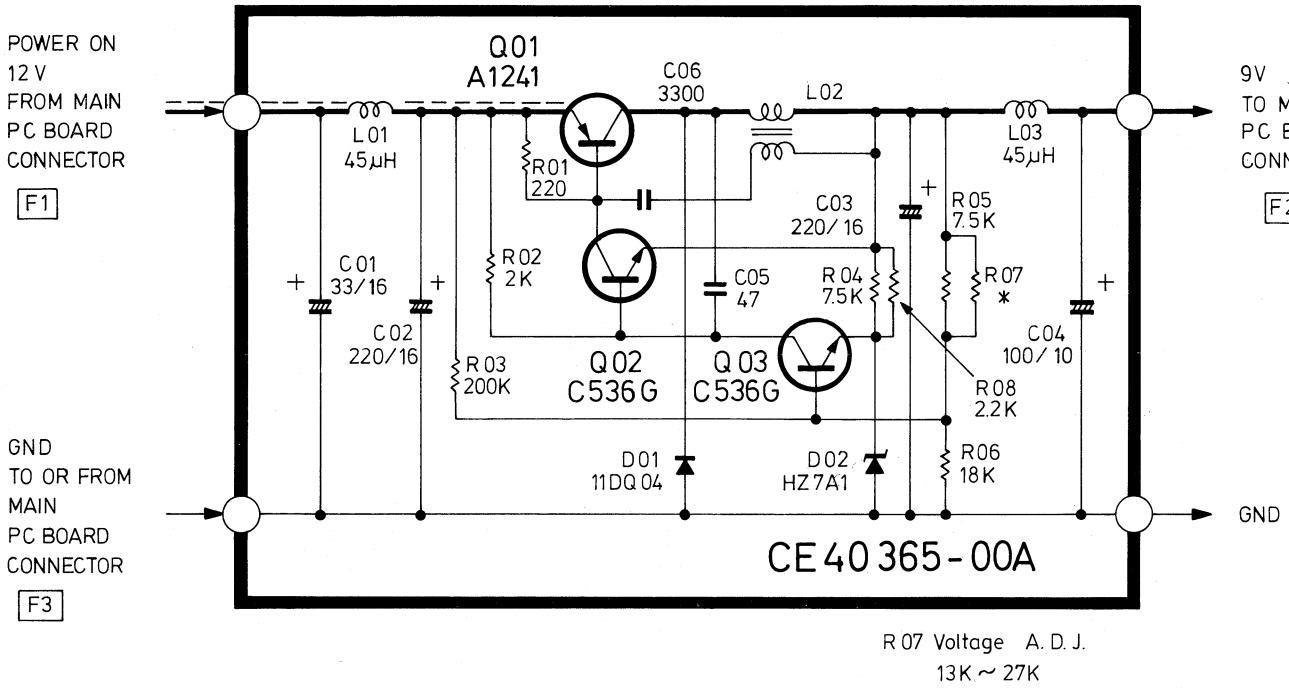
Kamerakabel – Camera cable



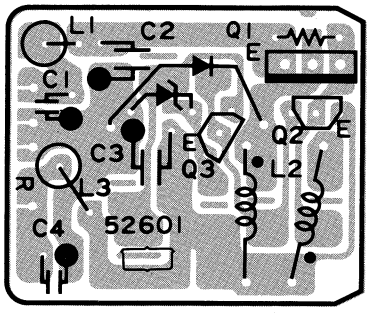
Stromversorgung für Handgriff – Power supply for grip

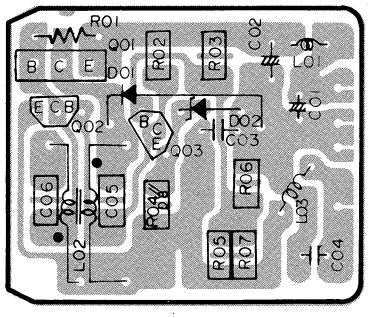


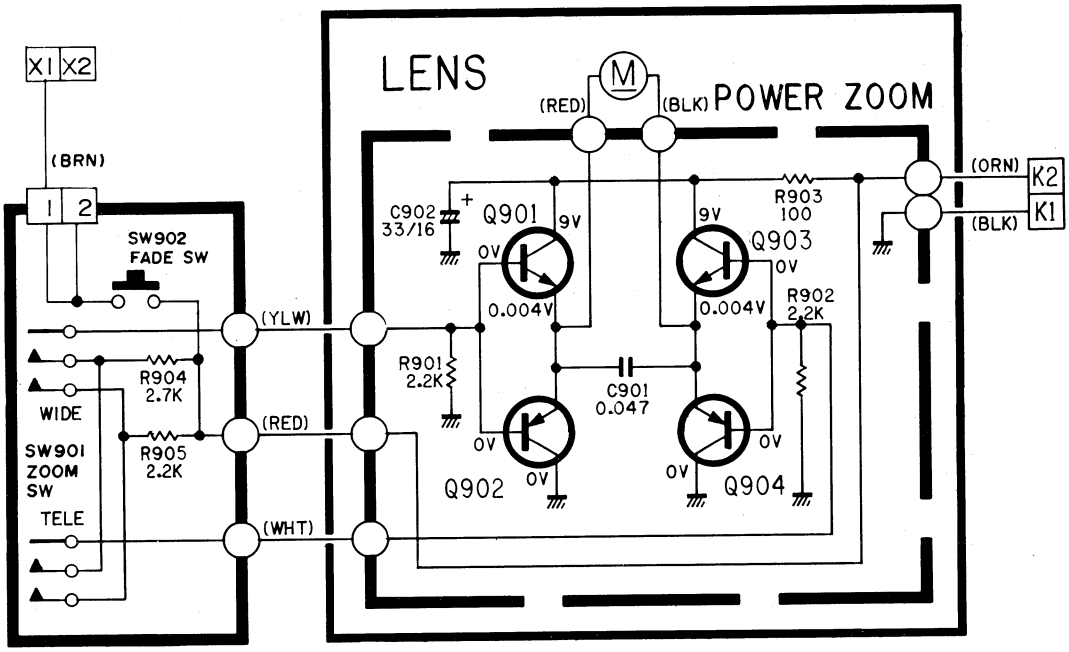




Stromversorgung Camera – Power supply camera

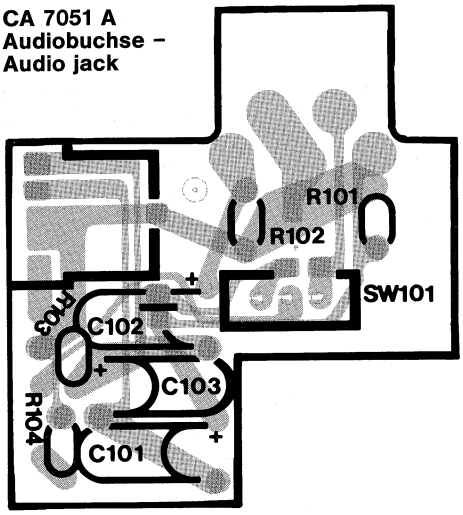




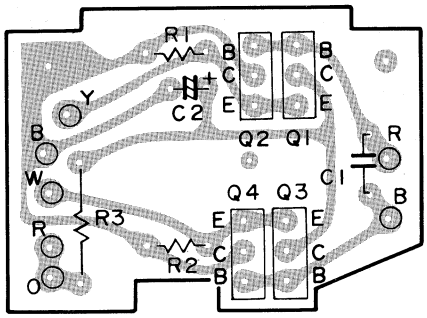


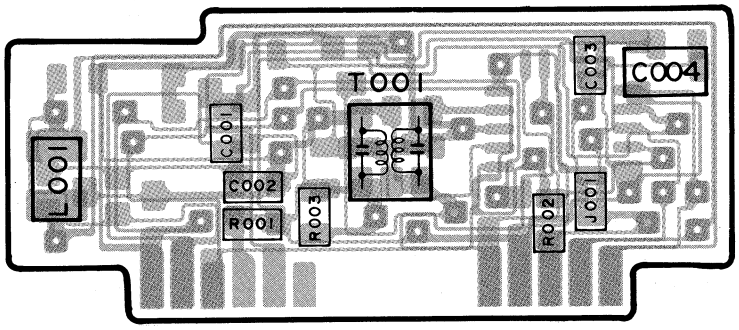
Zoommotor – Zoom motor

CA 7051 A
Audiobuchse –
Audio jack

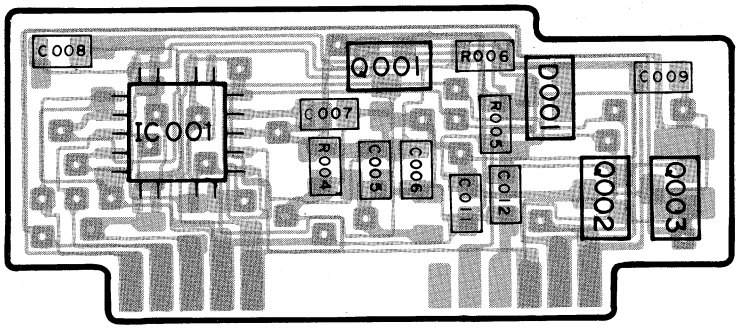


Leiterplatte Zoom – P.C.B. Zoom

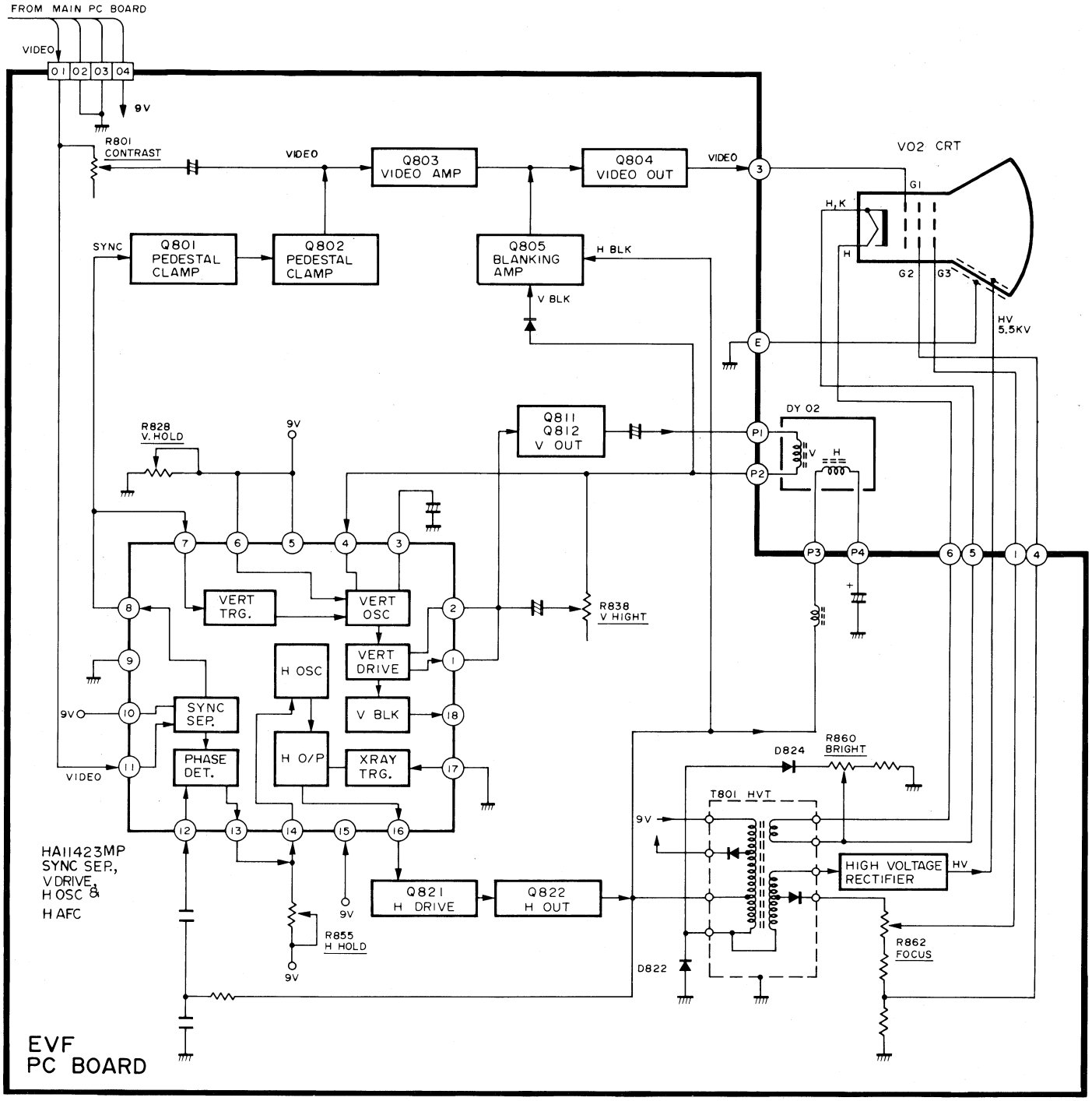




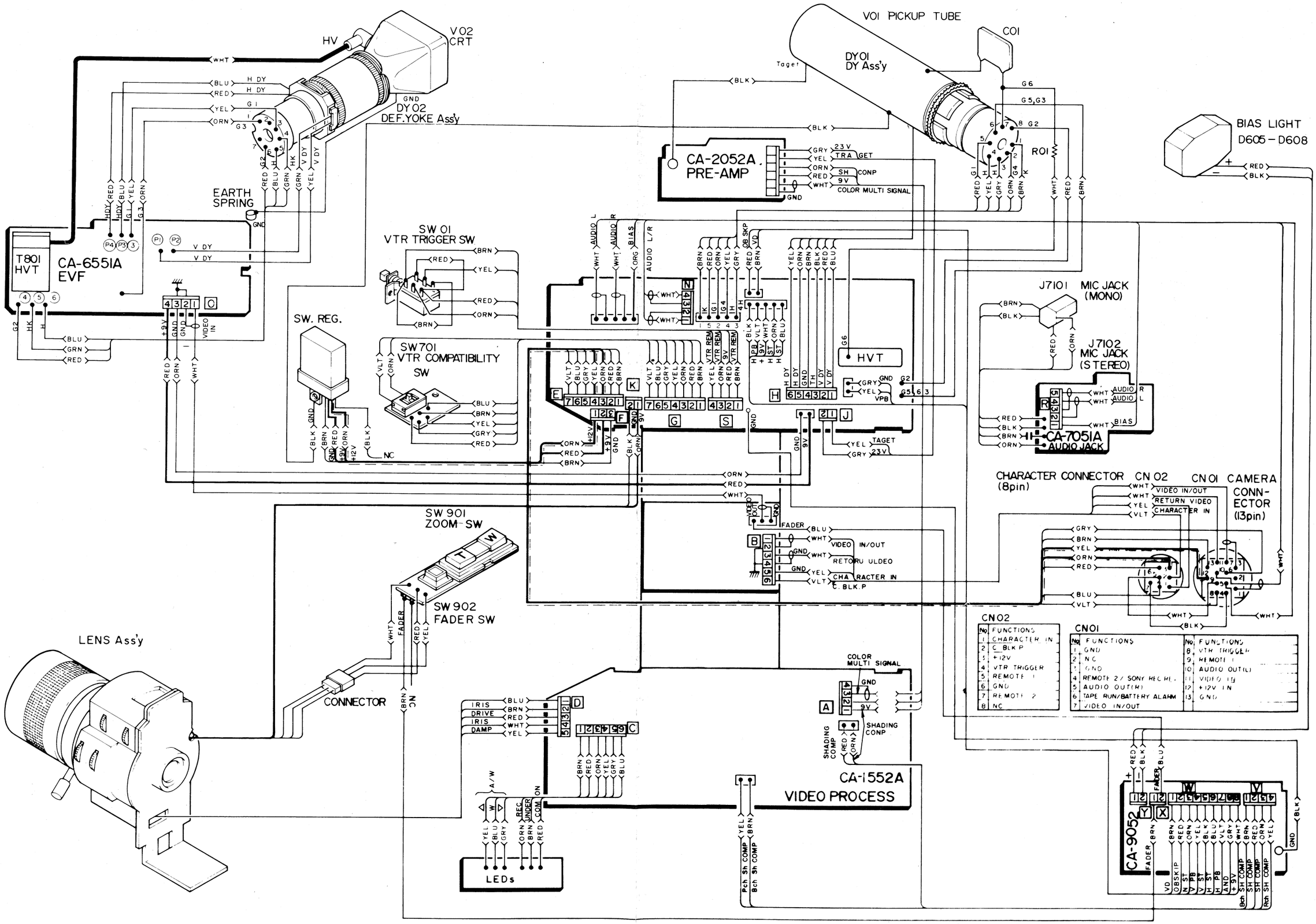
Leiterplatte Encoder –
P.C.B. Encoder
CA 4551 A



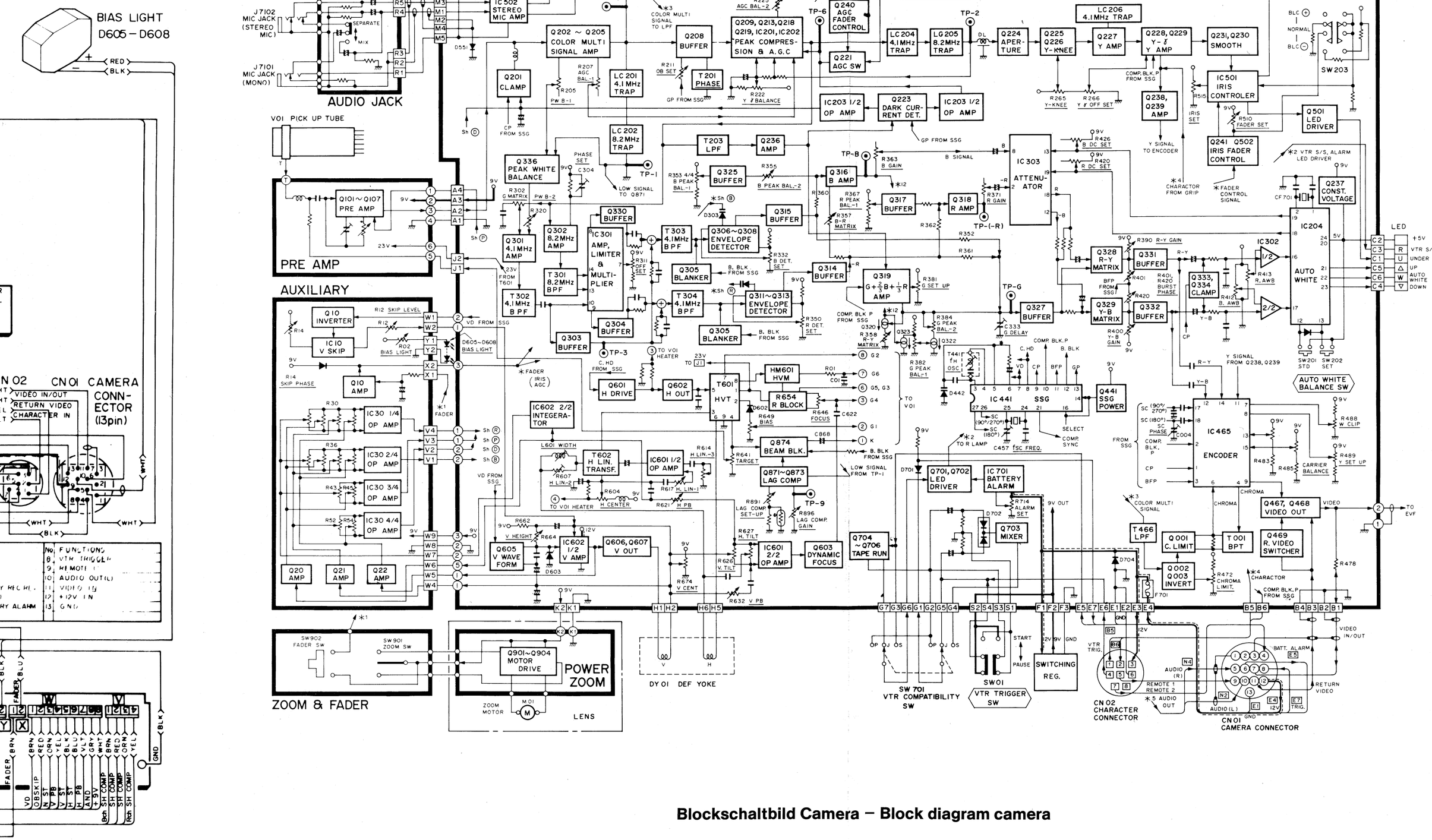
Leiterplatte Encoder –
P.C.B. Encoder
CA 4551 A



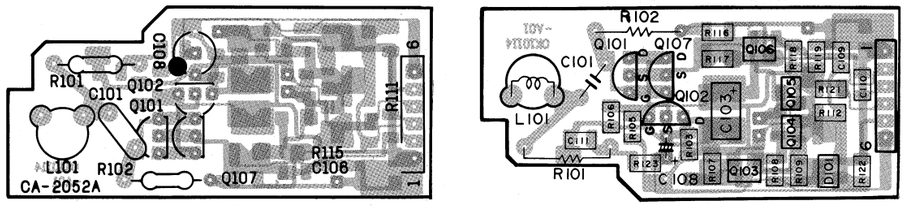
Blockschaltbild Monitor – Block diagram monitor



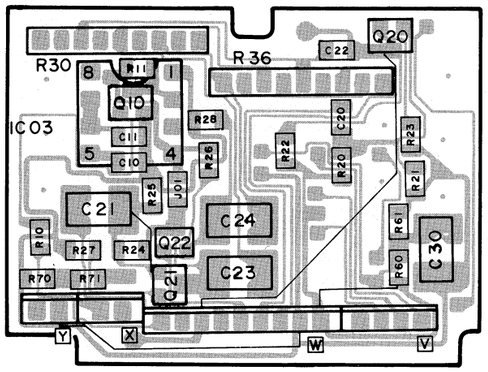
Verdrahtungsplan – Wiring diagram



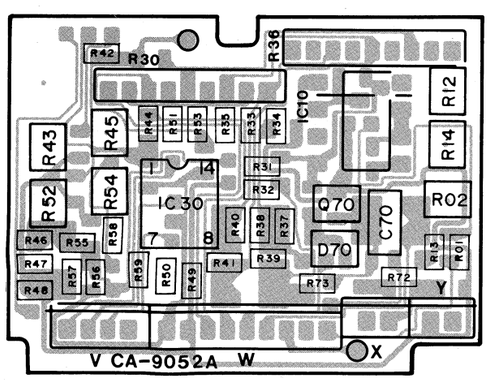
Blockschaltbild Camera – Block diagram camera



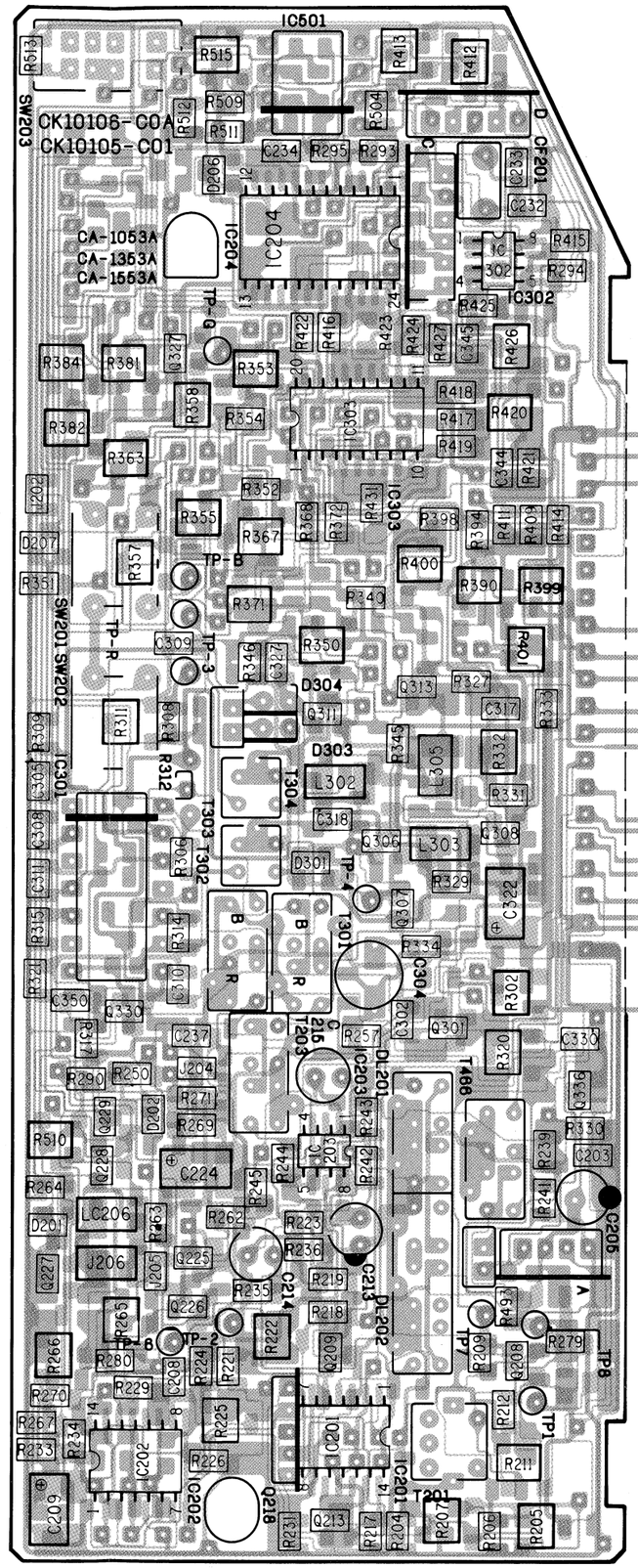
Leiterplatte Vorverstärker – P.C.B. pre amp.
CA 2052 A

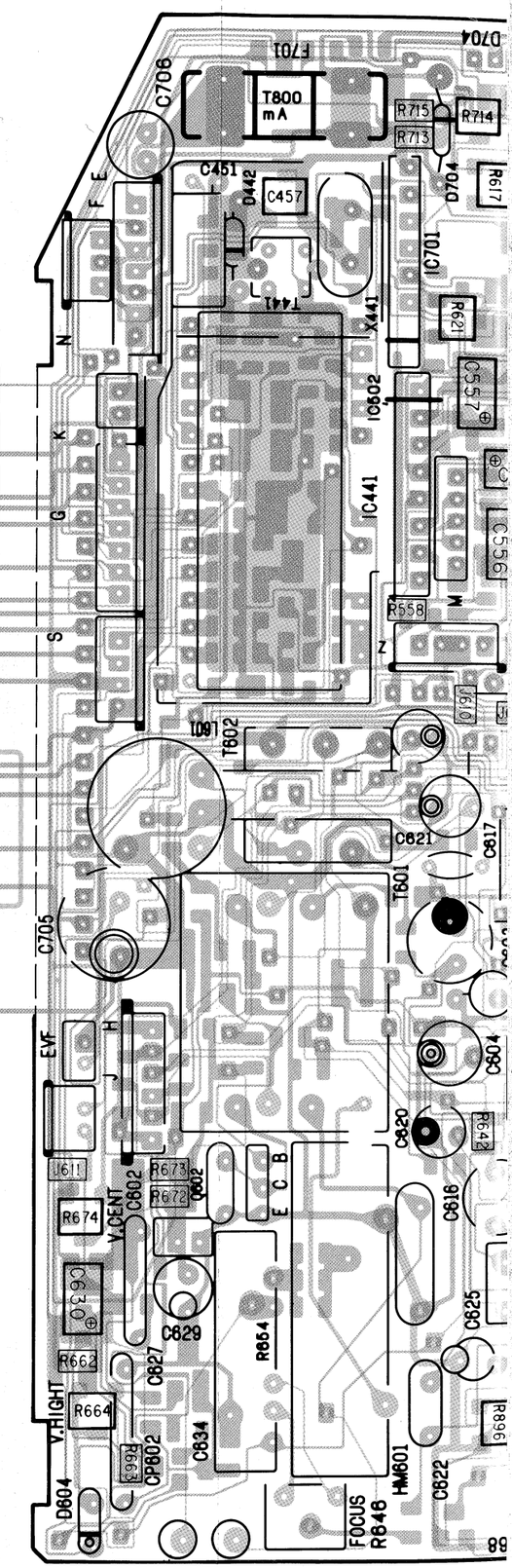


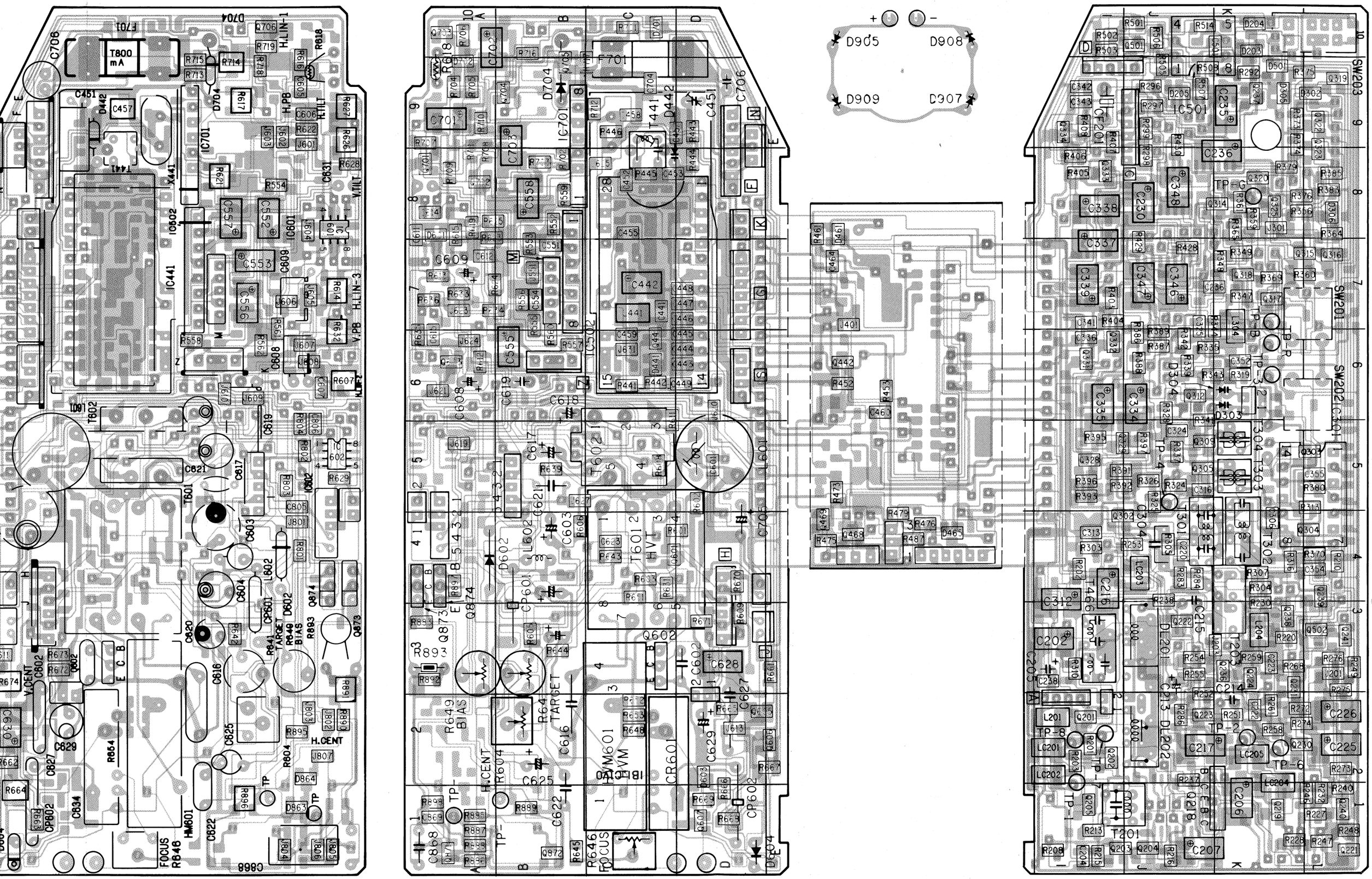
Leiterplatte AUX –
P.C.B. Auxiliary
CA – 9052 A

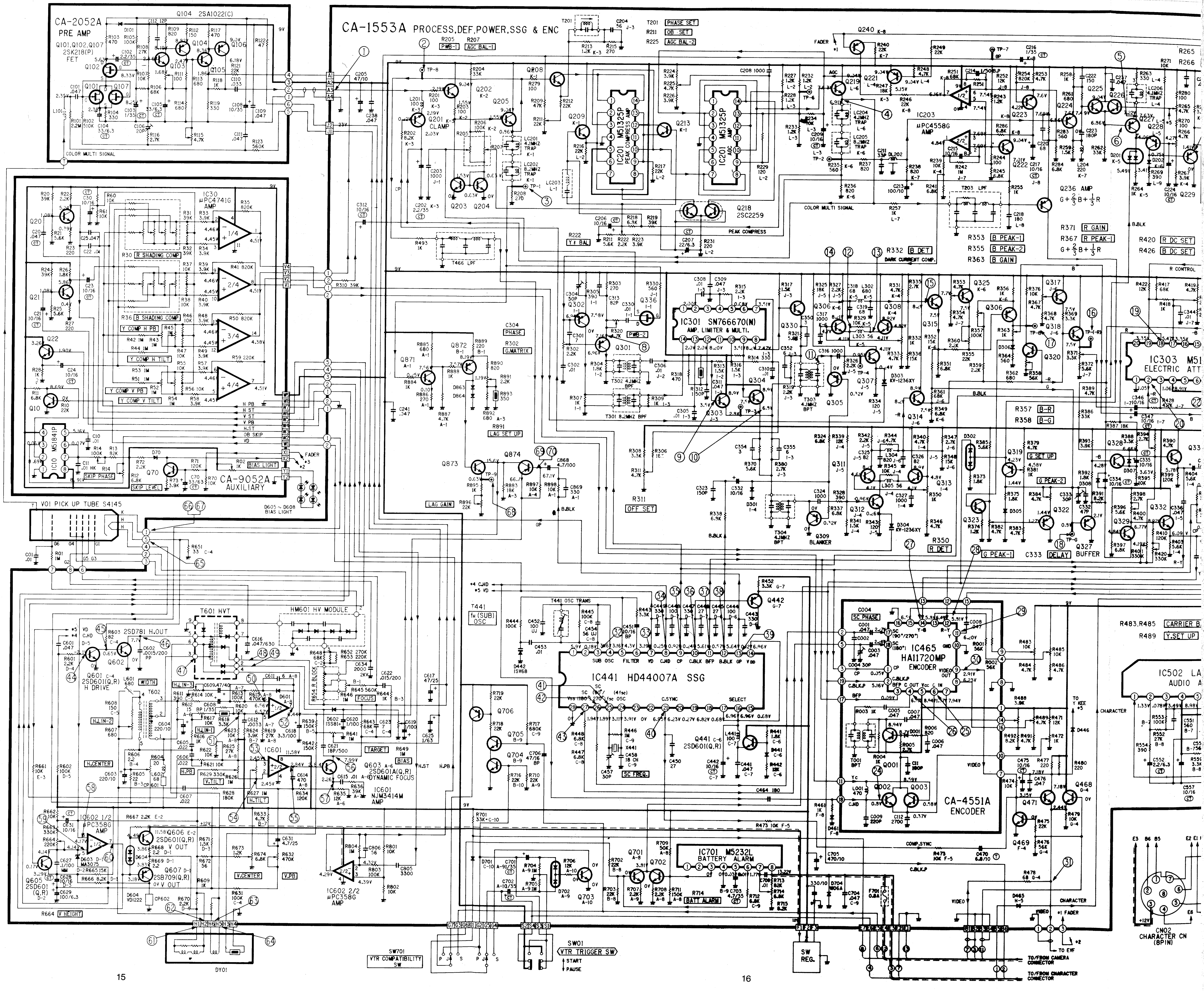


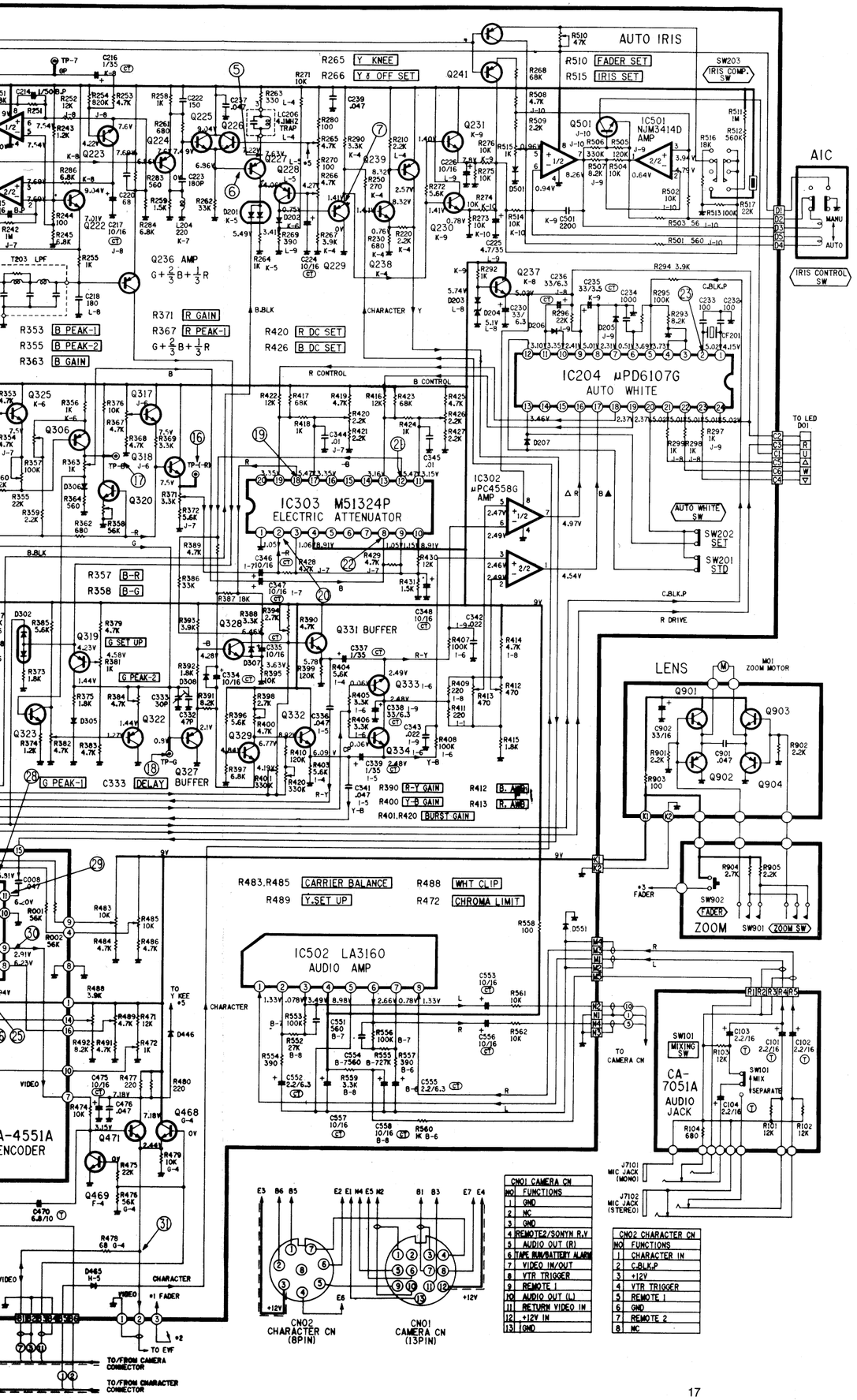
Leiterplatte AUX –
P.C.B. Auxiliary
CA 9052 A






T800 mA
F701
IC701
IC441
IC602
IC501
IC201
T601
T602
T6012
T441
T501
T201
T301
T302
T303
T304
T466
HVM601
CR601
D905
D908
D909
D907
H.CENT
V.CENT
FOCUS
R646
R649 BIAS
R640 BIAS
R641 TARGET
R644 TARGET
TP-G
TP-B
TP-R
TP-2
TP-4
TP-6
TP-7
TP-8
SW201
SW202
SW203
DL201
DL202
DL203
DL204

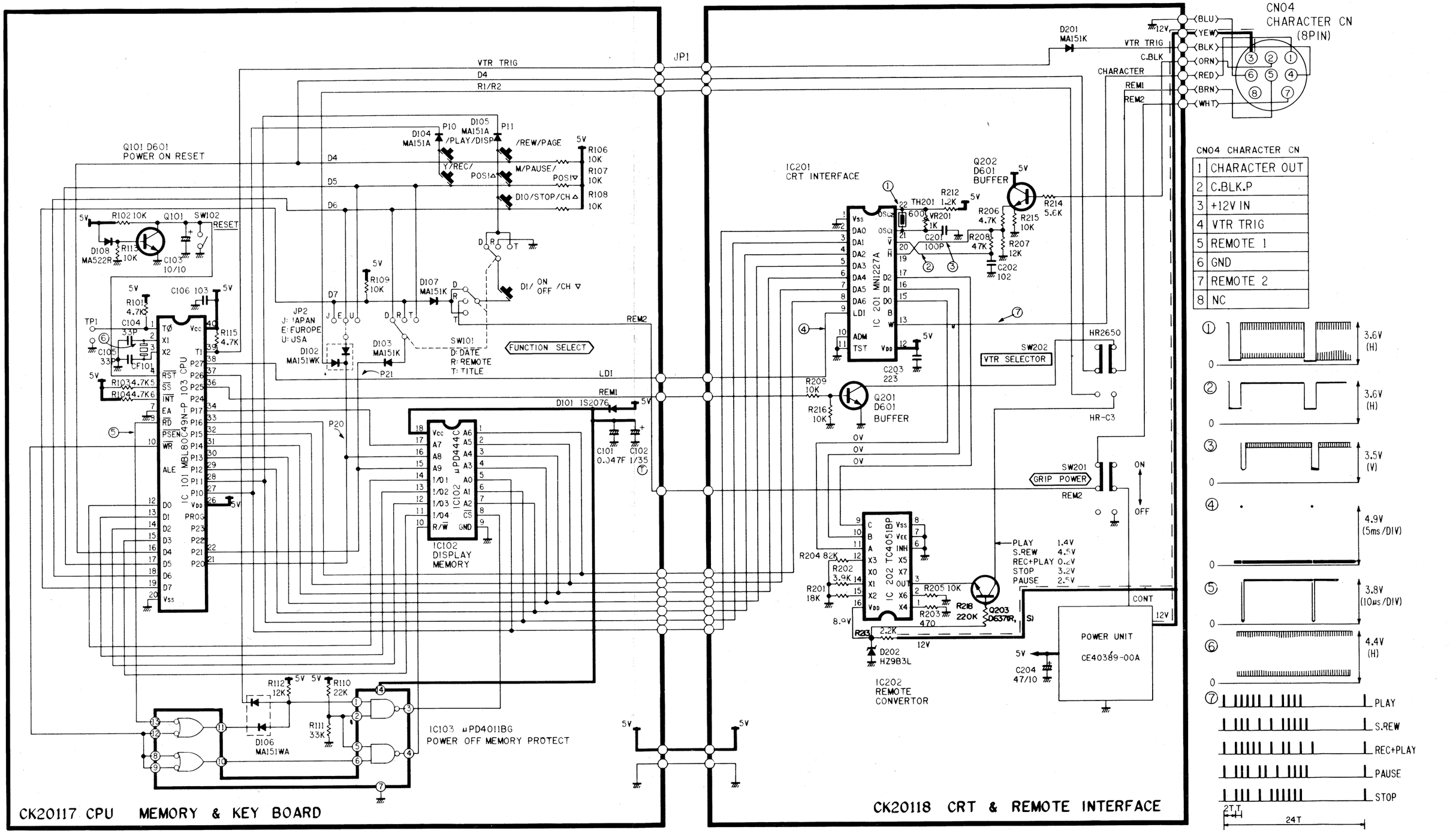

CA-2052A PRE AMP
Q101,Q102,Q107 2SK218(P) FET
Q104 2SA1022(C)
COLOR MULTI SIGNAL
IC30 µPC4741G AMP
R30 R SHADING COMP
R36 B SHADING COMP
Y COMP H PB
Y COMP H TILT
Y COMP V PB
Y COMP V TILT
IC10 M51841P
SKIP PHASE
SKIP LEVEL
BIAS LIGHT
CA-9052A AUXILIARY
D605 ~ D608 BIAS LIGHT
V01 PICK UP TUBE S4145
CA-1553A PROCESS,DEF,POWER,SSG & ENC
R205 PWB-1
R207 AGC BAL-1
T201 PHASE SET
R211 OB SET
R225 AGC BAL-2
Q201 CLAMP
LC201 4.1MHZ TRAP
LC202 8.2MHZ TRAP
IC201 M51325P PEAK COMPRESS AMP
IC201 M51325P AGC
Q218 2SC2259
PEAK COMPRESS
R222 Y γ BAL
T466 LPF
IC203 µPC4558G AMP
LC204 4.1MHZ TRAP
LC205 8.2MHZ TRAP
T203 LPF
LC206 4.1MHZ TRAP
Q236 AMP
G+2/3B+1/3R
R353 B PEAK-1
R355 B PEAK-2
R363 B GAIN
R371 R GAIN
R367 R PEAK-1
R420 R DC SET
R426 B DC SET
R332 B DET
DARK CURRENT COMP.
C304 PHASE
R302 G.MATRIX
R891 LAG SET UP
LAG GAIN
IC301 SN766670(N) AMP. LIMITER & MULTI.
T302 4.1MHZ BPF
T301 8.2MHZ BPF
T303 4.1MHZ BPT
T304 4.1MHZ BPT
Q309 BLANKER
R311 OFF SET
R357 B-R
R358 B-G
G SET UP
G PEAK-2
R350 R DET
G PEAK-1
C333 DELAY
Q327 BUFFER
IC303 M51 ELECTRIC ATT
T601 HVT
HM601 HV MODULE
2SD781 H.OUT
Q601 2SD601(Q,R) H DRIVE
WIDTH
H.LIN-1
H.LIN-2
H.LIN-3
H.CENTER
H.PB
V.TILT
H.TILT
FOCUS
TARGET
R649 BIAS
Q603 2SD601A(Q,R) DYNAMIC FOCUS
IC601 NJM3414M AMP
IC602 1/2 µPC358G AMP
Q606 2SD601(Q,R) V OUT
Q607 2SB709(Q,R) V OUT
Q605 2SD601 (Q,R)
R664 V HEIGHT
V.CENTER
V.PB
IC602 2/2 µPC358G AMP
DY01
T441 fH (SUB) OSC
T441 OSC TRANS
IC441 HD44007A SSG
SC FREQ.
Q441 2SD601(Q,R)
IC701 M5232L BATTERY ALARM
BATT ALARM
SW701 VTR COMPATIBILITY SW
SW01 VTR TRIGGER SW
START
PAUSE
SW REG.
C004 SC PHASE
IC465 HA11720MP ENCODER
CA-4551A ENCODER
R483,R485 CARRIER B
R489 Y.SET UP
IC502 LA AUDIO A
CN02 CHARACTER CN (8PIN)
TO/FROM CAMERA CONNECTOR
TO/FROM CHARACTER CONNECTOR
TO EVF



CNO1 CAMERA CN	
NO.	FUNCTIONS
1	GND
2	NC
3	GND
4	REMOTE2/SONYN R.V
5	AUDIO OUT (R)
6	TAPE RUN/BATTERY ALARM
7	VIDEO IN/OUT
8	VTR TRIGGER
9	REMOTE 1
10	AUDIO OUT (L)
11	RETURN VIDEO IN
12	+12V IN
13	GND

CNO2 CHARACTER CN	
NO.	FUNCTIONS
1	CHARACTER IN
2	C-BLK.P
3	+12V
4	VTR TRIGGER
5	REMOTE 1
6	GND
7	REMOTE 2
8	NC

① PAO — 0.7Vp-p (H)
② TP-8 — 0.5V (H)
③ TP-1 — 0.76Vp-p (H)
④ Q219 (E) — 0.63Vp-p (H)
⑤ Q227 (E) — 0.22V (H)
⑥ Q227 (B) — 0.24V (H)
⑦ Q229 (E) — 0.39V (H)
⑧ Q301 (E) — 0.44V (H)
⑨ Q303 (E) — 0.32V (H)
⑩ Q304 (E) — 0.88V (H)
⑪ Q305 (E) — 0.15V (H)
⑫ Q306 (E) — 0.68V (H)
⑬ Q308 (E) — 0.28V (H)
⑭ Q306 (E) — 0.94V (H)
⑮ Q315 (B) — 0.66V (H)
⑯ TP-R — 0.72V (H)
⑰ TP-B — 0.48V (H)
⑱ TP-G — 0.39V (H)
⑲ IC303 (18) — 0.41V (H)
⑳ IC303 (2) — 0.17V (H)
㉑ IC303 (12) — 0.41V (H)
㉒ IC303 (8) — 0.14V (H)
㉓ IC204 (2) — 5.8Vp-p (1us)
㉔ Q461 (B) — 0.32V (H)
㉕ IC (6) — 0.25V (H)
㉖ IC (4) — 1Vp-p (H)
㉗ IC (14) — 0.2V (H)
㉘ IC (12) — 0.2V (H)
㉙ IC (11) — 1.6V (H)
㉚ IC (9) — 2Vp-p (H)
㉛ Q467 (E) — 2.2Vp-p (H)
㉜ IC441 (3) — 5.6Vp-p 0.28us/T
㉝ IC441 (7) — 6.8Vp-p (V)
㉞ IC441 (8) — 6.4Vp-p (H)
㉟ IC441 (9) — 5.6Vp-p (H)
㊱ IC441 (10) — 4.5Vp-p (H)
㊲ IC441 (11) — 6.3Vp-p (H)
㊳ IC441 (12) — 6.4Vp-p (H)
㊴ IC441 (13) — 6.4Vp-p (V)
㊵ IC441 (21) — 6.8Vp-p (H)
㊶ IC441 (25) — 5Vp-p (69.8ns/T)
㊷ IC441 (26) — 5.6Vp-p (0.28us/T)
㊸ IC441 (27) — 5.6Vp-p (0.28US/T)
㊹ Q601 (B) — 4.6Vp-p (H)
㊺ Q601 (C) — 1.8Vp-p (H)
㊻ Q602 (C) — 130Vp-p (H)
㊼ T601 (3) — 4.0V (H)
㊽ T601 (1) — 0.26Vp-p (H)
㊾ T601 (4) — 1V (H)
㊿ IC601 (6) — 0.16V (H)
(51) IC601 (4) — 0.18Vp-p (H)
(52) IC601 (7) — 3.6V (H)
(53) IC601 (3) — 0.38Vp-p (H)
(54) IC601 (2) — 0.38Vp-p (H)
(55) IC601 (1) — 1.1Vp-p (H)
(56) Q603 (C) — 10.6Vp-p (H)
(57) Q603 (E) — 1.3Vp-p (H)
(58) IC602 (6) — 2.3Vp-p (V)
(59) IC602 (5) — 2.3Vp-p (V)
(60) IC602 (7) — 5.6Vp-p (V)
(61) H1 — 5.4Vp-p (V)
(62) H2 — 2.4Vp-p (V)
(63) H6 — 64Vp-p (H)
(64) H5 — 29Vp-p (H)
(65) HEATER — 0.1Vp-p (H)
(66) CATHODE — 6.4Vp-p (H)
(67) CATHODE (1) — 6.4Vp-p (V)
(68) Q873 (E) — 0.25V (H)
(69) Q874 (B) — 1.4Vp-p (H)
(70) Q874 (B) — 1.8Vp-p (V)

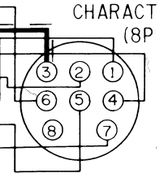


CNO4 CHARACTER CN

1	CHARACTER OUT
2	C.BLK.P
3	+12V IN
4	VTR TRIG
5	REMOTE 1
6	GND
7	REMOTE 2
8	NC

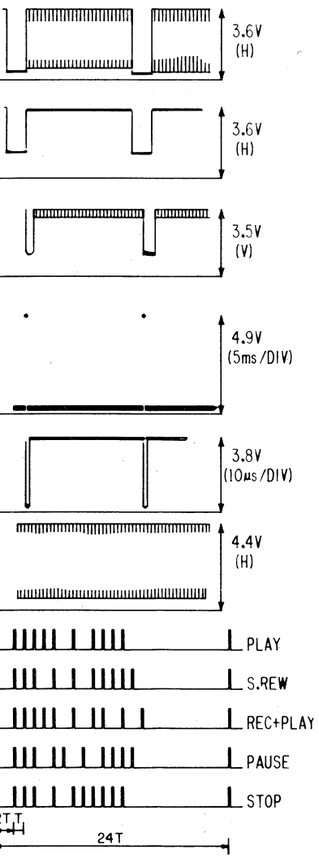
Schaltbild Titelgenerator (im Griff) – Circuit diagram title generator (grip)

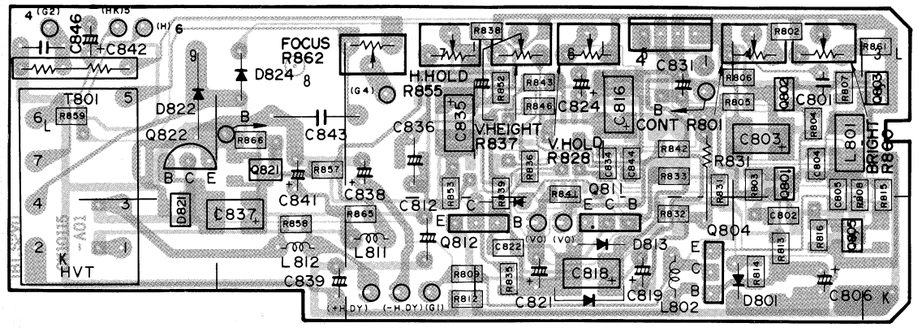
CNO4
CHARACTER CN
(8PIN)

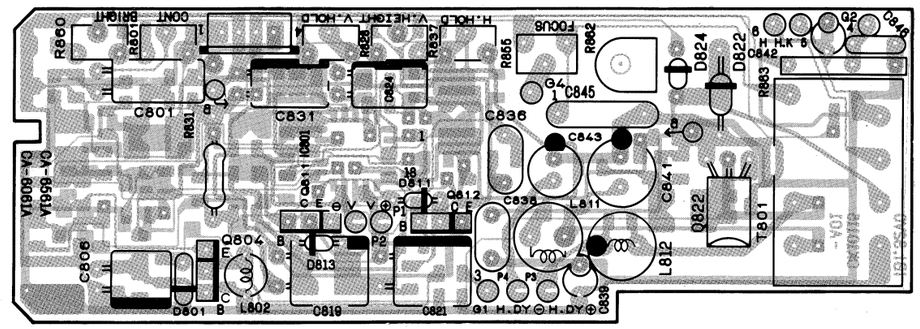


CHARACTER CN

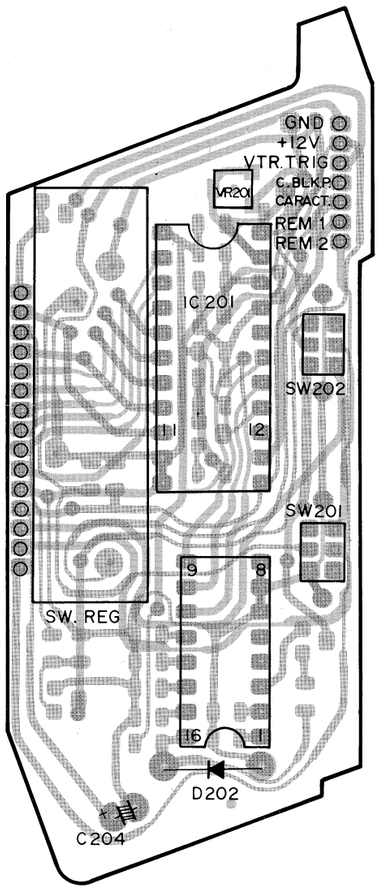
ARACTER OUT
BLK.P
2V IN
R TRIG
MOTE 1
D
MOTE 2

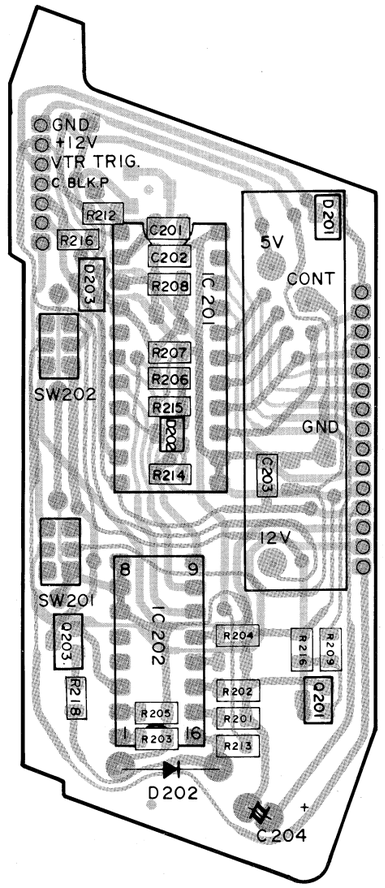


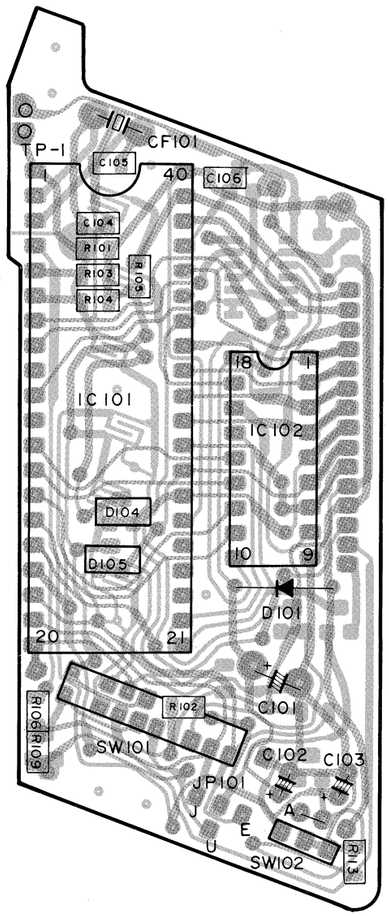


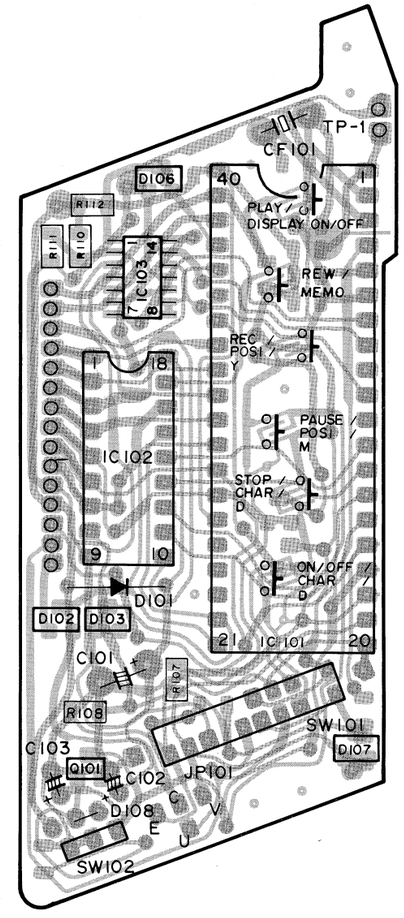


Leiterplatte Monitor – P.C.B. Monitor

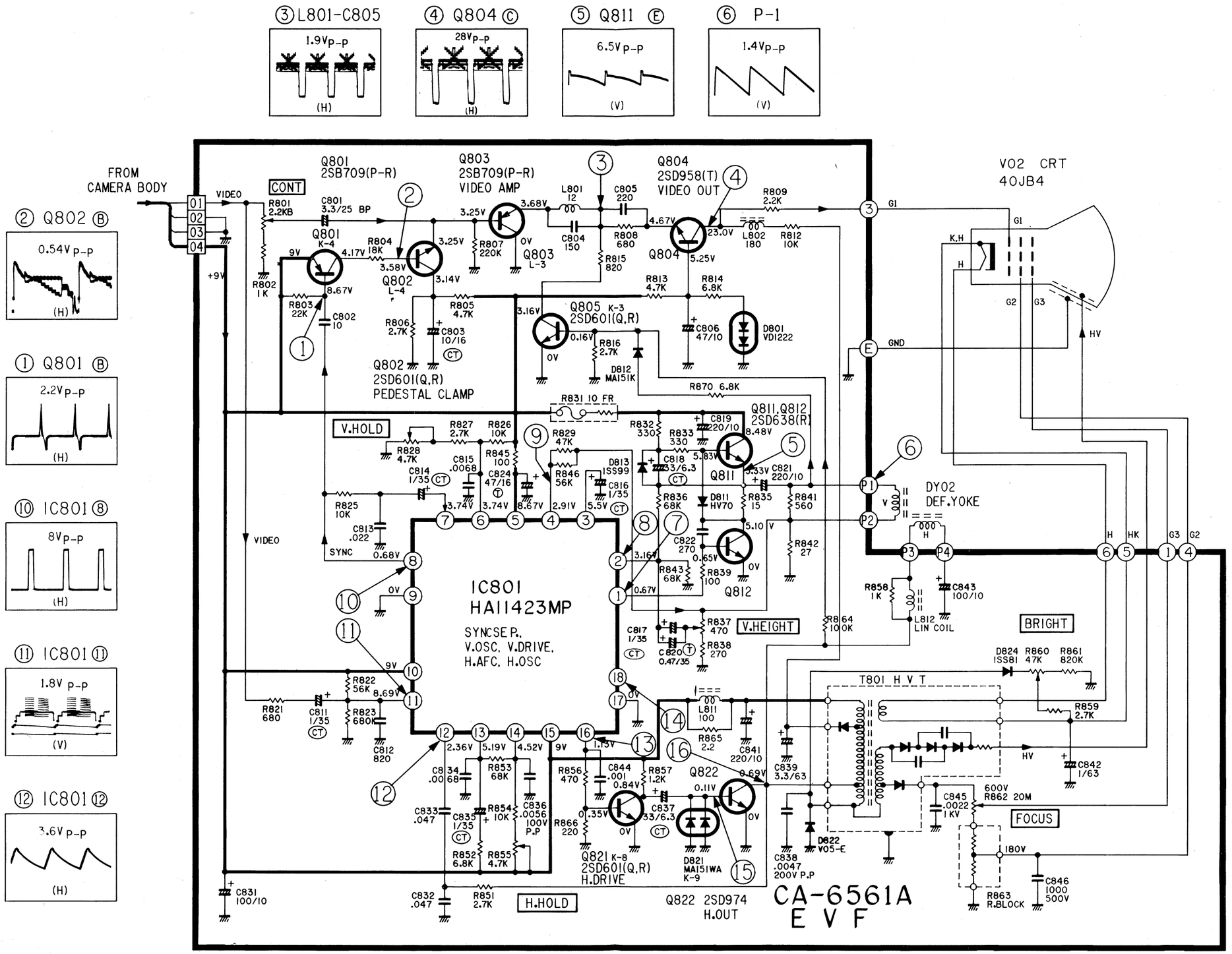




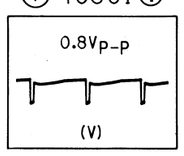




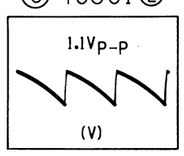
Leiterplatten Griff – P.C.B. Grip



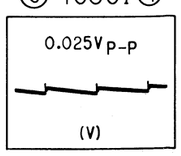
⑦ IC801 ①



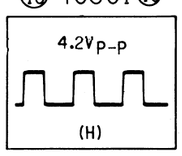
⑧ IC801 ②



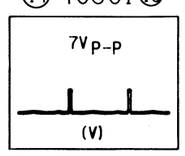
⑨ IC801 ④



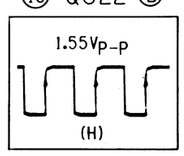
⑬ IC801 ⑯



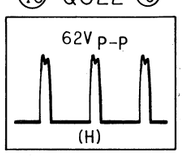
⑭ IC801 ⑱



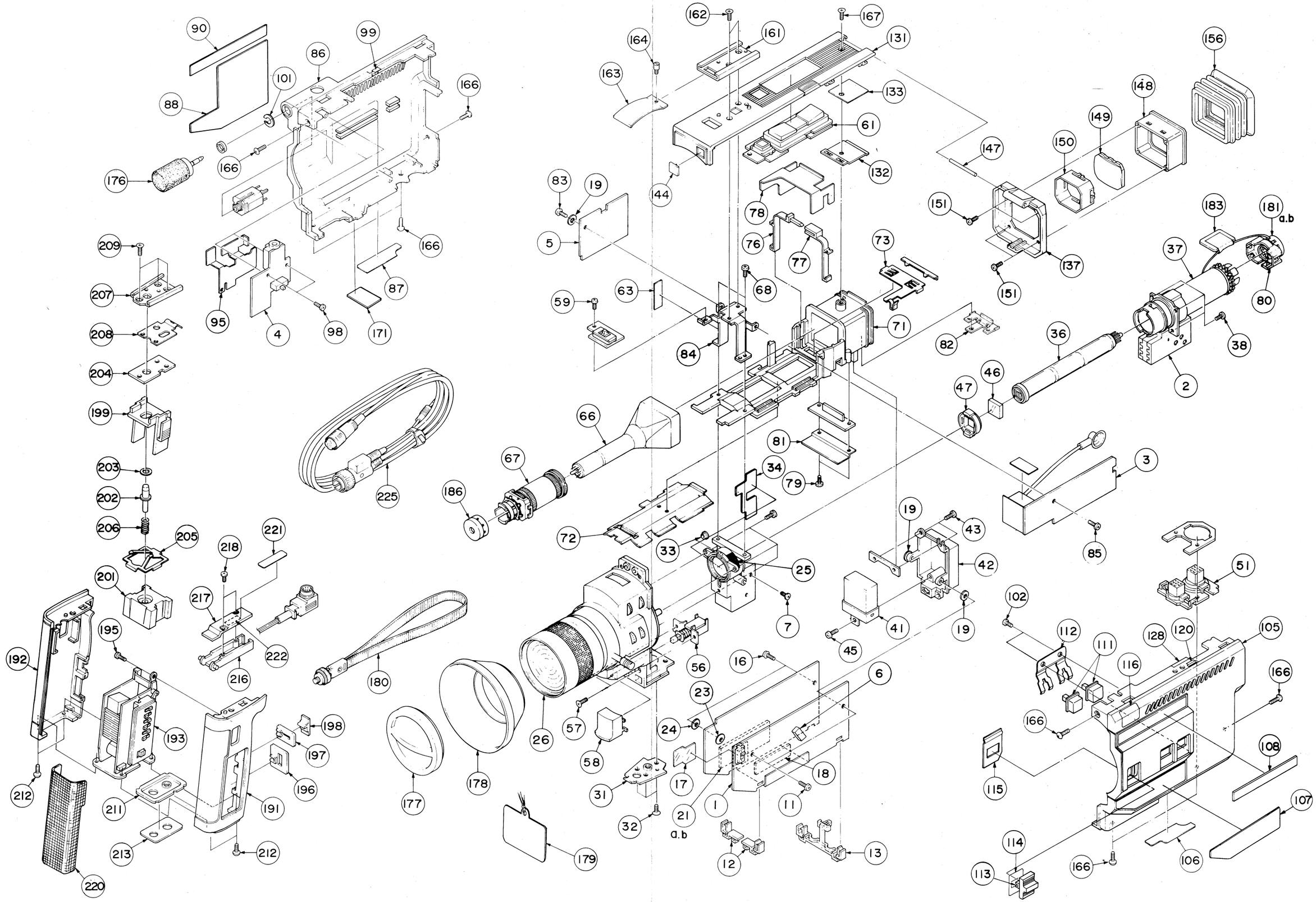
⑮ Q822 Ⓑ



⑯ Q822 ⓒ



Monitor – Monitor



Explosionszeichnung – Exploded diagram

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